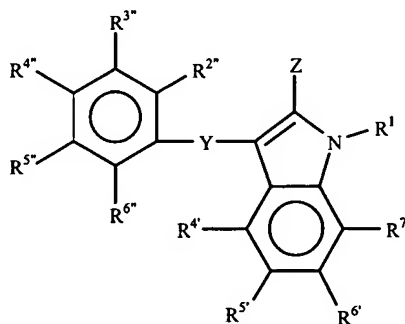


## Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

## Listing Claims:

Claim 19 (currently amended): A method for the treatment ~~or prophylaxis~~ of an HIV-infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

$R^1$  is hydrogen; acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH-(CH_2)_p$ -(amino acid); or  $-(CH_2)_p$ -(amino acid);

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$ ,  $R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ; alkacyl; optionally substituted or unsubstituted acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid; or  $-(CH_2)_p$ -(amino acid);

wherein if  $R^{5'}$  is ~~hydrogen~~, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^2$ ,  $-NHSO_2-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is optionally substituted or unsubstituted acyl,  $-C(=O)NH_2$ ;  $-C(=W)-NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p-(\text{amino acid})$ ; an amino acid;  $-(CH_2)_p-(\text{amino acid})$ ;  $-C(=O)R^3$ ;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OR^3$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)-OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ;  $-CN$ ; or halo;

Y is O; S;  $\underline{S(O)}$  or  $\underline{S(O)}_2$   $\underline{S(O)}_n$ ;

each W is independently O; S;  $\underline{NH-NH_2}$ ;  $\underline{NR^2-NHR^2}$ ;  $-NR^2R^2$ ;  $-N-CN$ ;  $-N-NH_2$ ;  $-N-NHR^2$ ;  $-N-NR^2R^3$ ;  $-N-OH$ ; or  $-N-OR^2$ ;

each  $R^2$  is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; or vinyl bromide;

each  $R^3$  is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^2$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^2$ ;  $-CR^2R^2-C(=O)R^2$ ; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted ~~alkylheterocycle~~ alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

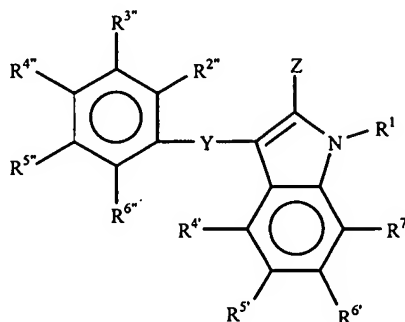
each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5; and

wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; alkheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ; oxime; hydrazine;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)-NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ;  $-S(O)_n-R^3$ ;  $C_{1-3}$  alkoxy;  $C_{1-3}$  thioether; or an amino acid residue;

optionally in a pharmaceutically acceptable carrier or diluent.

Claim 20 (currently amended): A method for the treatment ~~or prophylaxis~~ of an HIV-infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

$R^1$  is hydrogen; acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH-(CH_2)_p$ -(amino acid); or  $-(CH_2)_p$ -(amino acid);

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$ ,  $R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ; alkacyl; optionally substituted or unsubstituted acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid; or  $-(CH_2)_p$ -(amino acid);

wherein if  $R^{5'}$  is ~~hydrogen~~, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^2$ ,  $-NHSO_2-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is optionally substituted or unsubstituted acyl,  $-C(=O)NH_2$ ;  $-C(=W)-NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid;  $-(CH_2)_p$ -(amino acid);  $-C(=O)R^3$ ;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OR^3$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)-OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or

alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; -CN; or halo;

Y is O; S; S(O) or S(O)<sub>2</sub> S(O)<sub>n</sub>;

each W is independently O; S; NH-NH<sub>2</sub>; NR<sup>2</sup>-NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>2</sup>; -N-CN; -N-NH<sub>2</sub>; -N-NHR<sup>2</sup>; -N-NR<sup>2</sup>R<sup>3</sup>; -N-OH; or -N-OR<sup>2</sup>;

each R<sup>2</sup> is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; or vinyl bromide;

each R<sup>3</sup> is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted ~~alkylheterocycle~~ alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5; and

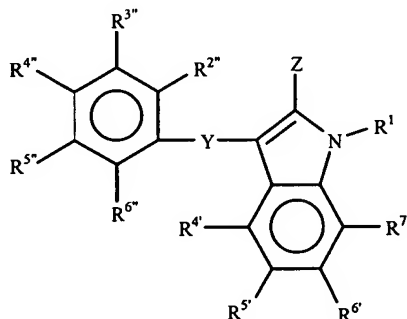
wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; ~~alkheterocycle~~ alkylheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; oxime; hydrazine; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)-NHR<sup>2</sup>; -C(=W)-NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)-NR<sup>2</sup>R<sup>3</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; -S(O)<sub>n</sub>-R<sup>3</sup>; C<sub>1-3</sub> alkoxy; C<sub>1-3</sub>thioether; or an amino acid residue;

in combination and/or alternation with one or more other anti-HIV agent, optionally in a pharmaceutically acceptable carrier or diluent.

Claim 21 (original): The method of claim 20, wherein the other anti-HIV agent is a reverse transcriptase inhibitor.

Claim 22 (original): The method of claim 21, wherein the reverse transcriptase inhibitor induces a mutation lysine 103 → asparagine and/or tyrosine 181 → cysteine in HIV reverse transcriptase.

Claim 23 (currently amended): A method for the treatment or ~~prophylaxis~~ of an HIV-infection in a host, wherein the HIV has a mutation at lysine 103 → asparagine and/or tyrosine 181 → cysteine in HIV reverse transcriptase, comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

$R^1$  is hydrogen; acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); or  $-(CH_2)_p$ -(amino acid);

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$ ,  $R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ; alkacyl; optionally substituted or unsubstituted acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid; or  $-(CH_2)_p$ -(amino acid);

wherein if  $R^{5'}$  is ~~hydrogen~~, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^3$ ,  $-NHSO_2-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is optionally substituted or unsubstituted acyl,  $-C(=O)NH_2$ ;  $-C(=W)-NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid;  $-(CH_2)_p$ -(amino acid);  $-C(=O)R^3$ ;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OR^3$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)-OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;

optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; -CN; or halo;

Y is O; S; S(O) or S(O)<sub>2</sub> S(O)<sub>n</sub>;

each W is independently O; S; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>2</sup>; -N-CN; -N-NH<sub>2</sub>; -N-NHR<sup>2</sup>; -N-NR<sup>2</sup>R<sup>3</sup>; -N-OH; or -N-OR<sup>2</sup>;

each R<sup>2</sup> is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; or vinyl bromide;

each R<sup>3</sup> is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

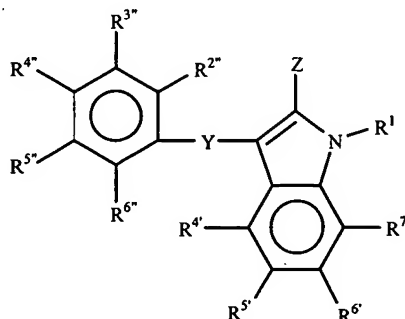
each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5; and

wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; alkheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; oxime; hydrazine; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)-NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)-NR<sup>2</sup>R<sup>3</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; -S(O)<sub>n</sub>-R<sup>3</sup>; C<sub>1-3</sub> alkoxy; C<sub>1-3</sub>thioether; or an amino acid residue;

optionally in a pharmaceutically acceptable carrier or diluent.

Claim 24 (currently amended): A method for the treatment ~~or prophylaxis~~ of an HIV-infection in a host, wherein the HIV is resistant to one or more reverse transcriptase inhibitor(s), comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

R<sup>1</sup> is hydrogen; acyl; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NH-(CH<sub>2</sub>)<sub>p</sub>-(amino acid); or -(CH<sub>2</sub>)<sub>p</sub>-(amino acid);

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup>, R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; alkacyl; optionally substituted or unsubstituted acyl; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)-SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid); an amino acid; or -(CH<sub>2</sub>)<sub>p</sub>-(amino acid);

wherein if R<sup>5'</sup> is ~~hydrogen~~, F, Cl, Br, -NO<sub>2</sub>, -CN, -OR<sup>2</sup>, -NR<sup>2</sup>R<sup>3</sup>, -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; or -NHCO-C<sub>1-3</sub>alkyl, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen;

Z is optionally substituted or unsubstituted acyl, -C(=O)NH<sub>2</sub>; -C(=W)-NH<sub>2</sub>; -C(=O)NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid); an amino acid; -(CH<sub>2</sub>)<sub>p</sub>-(amino acid); -C(=O)R<sup>3</sup>; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OR<sup>3</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)-OR<sup>2</sup>; -C(=O)-SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>;

optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; -CN; or halo;

Y is O; S; S(O) or S(O)<sub>2</sub> S(O)<sub>n</sub>;

each W is independently O; S; NH-NH<sub>2</sub>; NR<sup>2</sup>-NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>2</sup>; -N-CN; -N-NH<sub>2</sub>; -N-NHR<sup>2</sup>; -N-NR<sup>2</sup>R<sup>3</sup>; -N-OH; or -N-OR<sup>2</sup>;

each R<sup>2</sup> is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; or vinyl bromide;

each R<sup>3</sup> is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

each n is independently 0, 1 or 2;

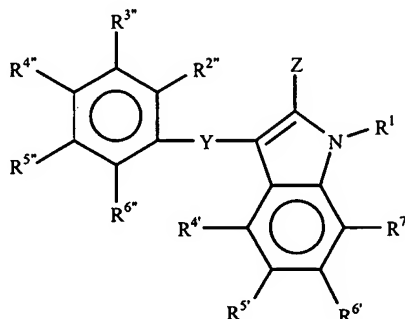
each p is independently 0, 1, 2, 3, 4 or 5; and

wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; ~~alkheterocycle~~ alkylheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; oxime; hydrazine; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)-NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)-NR<sup>2</sup>R<sup>3</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; -S(O)<sub>n</sub>-R<sup>3</sup>; C<sub>1-3</sub> alkoxy; C<sub>1-3</sub>thioether; or an amino acid residue;

in combination and/or alternation with one or more other anti-HIV agent, optionally in a pharmaceutically acceptable carrier or diluent.



Claim 27 (currently amended): A method for the treatment ~~or prophylaxis~~ of an HIV-infection in a host, wherein the HIV is resistant to one or more reverse transcriptase inhibitor(s), comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

$R^1$  is hydrogen; acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH-(CH_2)_p$ -(amino acid); or  $-(CH_2)_p$ -(amino acid);

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$ ,  $R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ; alkacyl; optionally substituted or unsubstituted acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid; or  $-(CH_2)_p$ -(amino acid);

wherein if  $R^{5'}$  is ~~hydrogen~~, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^2$ ,  $-NHCO-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is optionally substituted or unsubstituted acyl,  $-C(=O)NH_2$ ;  $-C(=W)-NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid;  $-(CH_2)_p$ -(amino acid);  $-C(=O)R^3$ ;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OR^3$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)-OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;

optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; -CN; or halo;

Y is O; S; S(O) or S(O)<sub>2</sub> S(O)<sub>n</sub>;

each W is independently O; S; NH-NH<sub>2</sub>; NR<sup>2</sup>-NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>2</sup>; -N-CN; -N-NH<sub>2</sub>; -N-NHR<sup>2</sup>; -N-NR<sup>2</sup>R<sup>3</sup>; -N-OH; or -N-OR<sup>2</sup>;

each R<sup>2</sup> is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; or vinyl bromide;

each R<sup>3</sup> is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

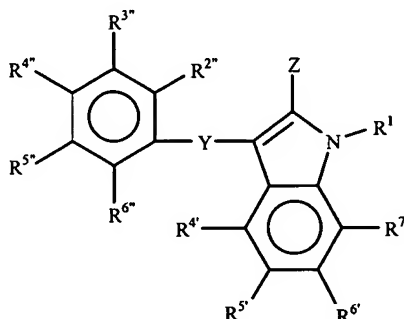
each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5; and

wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; ~~alkheterocycle~~ alkylheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; oxime; hydrazine; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)-NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)-NR<sup>2</sup>R<sup>3</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; -S(O)<sub>n</sub>-R<sup>3</sup>; C<sub>1-3</sub> alkoxy; C<sub>1-3</sub>thioether; or an amino acid residue;

optionally in a pharmaceutically acceptable carrier or diluent.

Claim 28 (currently amended): A method for the treatment ~~or prophylaxis~~ of an HIV-infection in a host, wherein the HIV has a mutation at lysine 103 → asparagine and/or tyrosine 181 → cysteine in HIV reverse transcriptase, comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein

$R^1$  is hydrogen; acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); or  $-(CH_2)_p$ -(amino acid);

$R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$  and  $R^6$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-SH$ ;  $-SR^2$ ;  $-NH_2$ ;  $-NHR^2$ ;  $-NR^2R^3$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2SO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $-NR^2CO-C_{1-3}alkyl$ ; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl;  $CH_3$ ;  $CF_3$ ; vinyl bromide;  $-CR^2R^2-S(O)_n-R^3$ ;  $-CR^2R^2NH_2$ ;  $-CR^2R^2NHR^2$ ;  $-CR^2R^2NR^2R^3$ ;  $-CR^2R^2-C(=O)R^2$ ; alkacyl; optionally substituted or unsubstituted acyl;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;  $-C(=O)NH_2$ ;  $-C(=W)NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)-NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid; or  $-(CH_2)_p$ -(amino acid);

wherein if  $R^5$  is ~~hydrogen~~, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^2$ ,  $-NHCO-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^4$ ,  $R^6$  and  $R^7$  is not hydrogen; or alternatively, wherein at least two of  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  are not hydrogen;

Z is optionally substituted or unsubstituted acyl,  $-C(=O)NH_2$ ;  $-C(=W)-NH_2$ ;  $-C(=O)NHR^2$ ;  $-C(=W)NHR^2$ ;  $-C(=O)NR^2R^3$ ;  $-C(=W)NR^2R^3$ ;  $-C(=W)NH(CH_2)_p$ -(amino acid); an amino acid;  $-(CH_2)_p$ -(amino acid);  $-C(=O)R^3$ ;  $-C(=O)H$ ;  $-C(=W)H$ ;  $-C(=O)R^2$ ;  $-C(=W)R^2$ ;  $-C(=O)OR^3$ ;  $-C(=O)OH$ ;  $-C(=W)OH$ ;  $-C(=O)OR^2$ ;  $-C(=W)-OR^2$ ;  $-C(=O)-SH$ ;  $-C(=W)SH$ ;  $-C(=O)SR^2$ ;  $-C(=W)SR^2$ ;

optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; -CN; or halo;

Y is O; S; S(O) or S(O)<sub>2</sub> S(O)<sub>n</sub>;

each W is independently O; S; NH-NH<sub>2</sub>; NR<sup>2</sup>-NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>2</sup>; -N-CN; -N-NH<sub>2</sub>; -N-NHR<sup>2</sup>; -N-NR<sup>2</sup>R<sup>3</sup>; -N-OH; or -N-OR<sup>2</sup>;

each R<sup>2</sup> is independently hydrogen; an optionally substituted or unsubstituted branched or unbranched lower alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; or vinyl bromide;

each R<sup>3</sup> is independently hydrogen; optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl; CH<sub>3</sub>; CF<sub>3</sub>; vinyl bromide; -CR<sup>2</sup>R<sup>2</sup>-S(O)<sub>n</sub>-R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NH<sub>2</sub>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>NR<sup>2</sup>R<sup>2</sup>; -CR<sup>2</sup>R<sup>2</sup>-C(=O)R<sup>2</sup>; optionally substituted or unsubstituted aryl; optionally substituted or unsubstituted heterocycle; optionally substituted or unsubstituted alkylaryl; optionally substituted or unsubstituted alkylheterocycle; optionally substituted or unsubstituted aralkyl; or optionally substituted or unsubstituted heterocycle-alkyl;

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5; and

wherein the optionally substituted branched or unbranched alkyl, alkenyl, alkynyl, lower alkyl, lower alkenyl; lower alkynyl; acyl; aryl; heterocycle; alkaryl; ~~alkheterocycle~~ alkylheterocycle; arylalkyl; or alkylheterocycle optionally is substituted with one or more of halogen; -OH; -OR<sup>2</sup>; -SH; -SR<sup>2</sup>; oxime; hydrazine; -C(=O)H; -C(=W)H; -C(=O)R<sup>2</sup>; -C(=W)R<sup>2</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)OR<sup>2</sup>; -C(=O)SH; -C(=W)SH; -C(=O)SR<sup>2</sup>; -C(=W)SR<sup>2</sup>; -C(=O)NH<sub>2</sub>; -C(=W)NH<sub>2</sub>; -C(=O)-NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)-NR<sup>2</sup>R<sup>3</sup>; -NH<sub>2</sub>; -NHR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>SO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; -NR<sup>2</sup>CO-C<sub>1-3</sub>alkyl; -S(O)<sub>n</sub>-R<sup>3</sup>; C<sub>1-3</sub> alkoxy; C<sub>1-3</sub>thioether; or an amino acid residue;

in combination and/or alternation with one or more other anti-HIV agent, optionally in a pharmaceutically acceptable carrier or diluent.

Claim 29 (original): The method of any one of claims 19-28 wherein the host is a human.

Claim 30 (currently amended): The method of any one of claims 19 or 24 wherein:

R<sup>1</sup> is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ; oxime, hydrazine, or  $C_{1-3}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-3}$  alkoxy or  $C_{1-3}$  thioether, wherein if  $R^{5'}$  is hydrogen, F, Cl, Br,  $-NO_2$ ,  $-CN$ ,  $-OR^2$ ,  $-NR^2R^2$ ,  $-NHSO_2-C_{1-3}alkyl$ ; or  $-NHCO-C_{1-3}alkyl$ , then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{6'}$  or  $R^{7'}$  is not hydrogen;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OH$ ;  $-OR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ;  $C_{1-5}alkoxy$ ; oxime, hydrazine,  $-C_{1-5}$  alkyl or alkenyl optionally ~~substituted~~ substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-5}$  thioether or  $-C_{1-5}$  alkoxy,

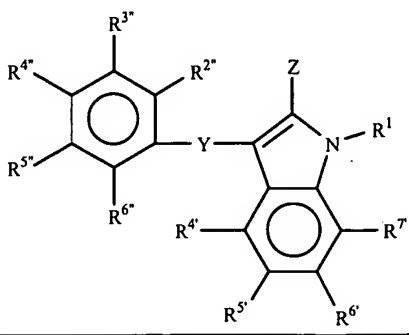
Z is  $-CN$ ,  $-C(=W)NR^2R^3$ ,  $-C(=O)R^3$ ,  $-C(=O)OR^3$ ,  $-CR^2R^2-S(O)_n-R^3$ ,  $-CR^2R^2NHR^2$ ,  $CR^2R^2-CO-R^2$  or substituted or unsubstituted lower alkyl;

Y is O; S; S(O) or S(O)<sub>2</sub>  $S(\ominus)_n$ ;

each W is independently O; S;  $-N-CN$  or  $-N-OR^2$ ; and

each  $R^2$  is independently hydrogen or  $C_{1-3}$  alkyl.

Claim 31(currently amended): The A method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OR^2$ ;  $-NR^2R^3$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ; oxime, hydrazine, or  $C_{1-3}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,

-NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-3</sub> alkoxy or C<sub>1-3</sub> thioether, wherein if R<sup>5'</sup> is ~~hydrogen~~, F, Cl, Br, -NO<sub>2</sub>, -CN, -OR<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; or -NHCO-C<sub>1-3</sub>alkyl, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>6'</sup> is H; halo; -NO<sub>2</sub>; -CN; -NR<sup>2</sup>R<sup>3</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; oxime, hydrazine, or C<sub>1-3</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-3</sub> alkoxy or C<sub>1-3</sub> thioether;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OR<sup>2</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; oxime, hydrazine, -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>, CR<sup>2</sup>R<sup>2</sup>-CO-R<sup>2</sup> or substituted or unsubstituted lower alkyl;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

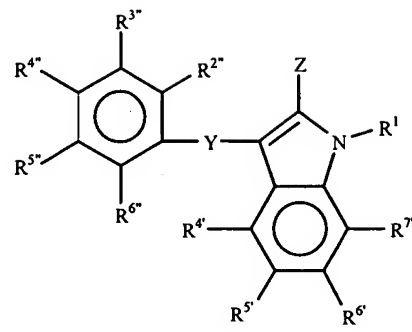
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 32(currently amended): ~~The A method of any one of claims 19 or 24 for the treatment of~~  
an HIV infection in a host comprising administering to said host an effective anti-HIV  
treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; oxime, hydrazine, or C<sub>1-3</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-3</sub> alkoxy or C<sub>1-3</sub> thioether, wherein if R<sup>5'</sup> is hydrogen, F, Cl, Br, -NO<sub>2</sub>, -CN, -OR<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; or -NHCO-C<sub>1-3</sub>alkyl, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OH; -OR<sup>2</sup>; -NR<sup>2</sup>R<sup>3</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; C<sub>1-5</sub>alkoxy; oxime, hydrazine, -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy;

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>; -CR<sup>2</sup>R<sup>2</sup>NHR<sup>2</sup>, CR<sup>2</sup>R<sup>2</sup>-CO-R<sup>2</sup> or substituted or unsubstituted lower alkyl;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

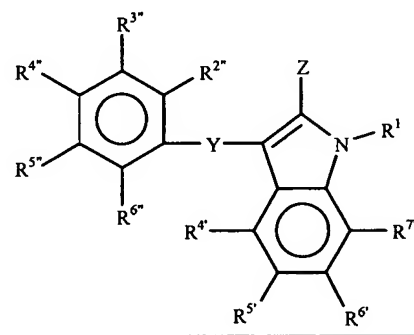
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 33 (currently amended): The ~~A~~ method of ~~any one of claims 19 or 24~~ for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  are each independently H or halo;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-\text{NO}_2$ ;  $-\text{CN}$ ;  $-\text{OR}^2$ ;  $-\text{NHSO}_2\text{-C}_{1-3}\text{alkyl}$ ;  $-\text{NHCO-C}_{1-3}\text{alkyl}$ ; oxime, hydrazine,  $-\text{C}_{1-5}$  alkyl or alkenyl optionally ~~substituted~~ substituted with one or more of  $-\text{OH}$ ,  $-\text{SH}$ ,  $-\text{C(O)H}$ ,  $-\text{COOH}$ , halogen,  $-\text{NR}^2\text{R}^2$ ,  $-\text{C}_{1-5}$  thioether or  $-\text{C}_{1-5}$  alkoxy,

wherein if  $R^{5'}$  is halo, then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is  $-\text{C(=W)NR}^2\text{R}^3$ ,  $-\text{C(=O)R}^3$  or  $-\text{CR}^2\text{R}^2\text{NHR}^2$ ;

Y is O or  $\text{S(O)}_n$ ;

each W is independently O; S;  $-\text{N-CN}$  or  $-\text{N-OR}^2$ ;

each  $\text{R}^2$  is independently hydrogen or  $\text{C}_{1-3}$  alkyl; and

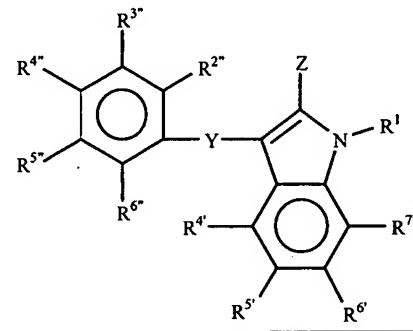
each  ~~$\text{R}^3$~~   $\text{R}^3$  is independently  $\text{C}_{1-5}$  alkyl,  $\text{C}_{1-5}$  alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of  $\text{C(O)NR}^2\text{R}^2$ ,  $-\text{NR}^2\text{R}^2$ ,  $-(\text{CH})_m\text{C(O)NR}^2\text{R}^2$ ,  $-(\text{CH})_m\text{C(=W)-NH(CH}_2)_p\text{-(amino acid)}$ .

each n is independently 0, 1 or 2;



each p is independently 0, 1, 2, 3, 4 or 5

Claim 34(currently amended): The ~~A~~ method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OR<sup>2</sup>; -NHSO<sub>2</sub>-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; oxime, hydrazine, -C<sub>1-5</sub> alkyl or alkenyl optionally ~~substituted~~ substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

wherein if R<sup>5'</sup> is halo, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen;

Z is -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

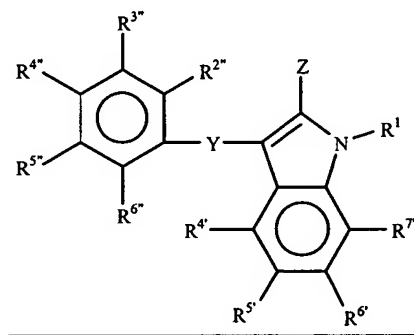
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 35(currently amended): The A method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; or -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

wherein if R<sup>5'</sup> is halo, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen;

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

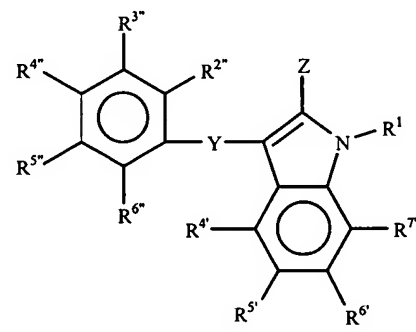
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 36(currently amended): ~~The A method of any one of claims 19 or 24~~ for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H or -C<sub>1-5</sub> alkyl or alkenyl optionally ~~substituted~~ substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

wherein if R<sup>5'</sup> is halo, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen;

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O or S;

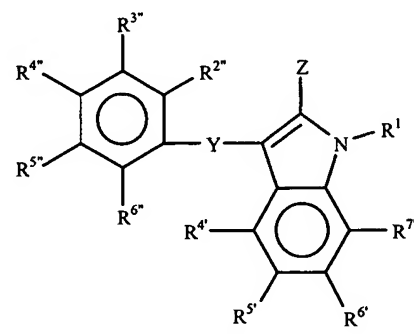
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 37(currently amended): The A method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H; halo; -NO<sub>2</sub>; -CN; -OR<sup>2</sup>; -NHCO-C<sub>1-3</sub>alkyl; -NHCO-C<sub>1-3</sub>alkyl; oxime, hydrazine, -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy;

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

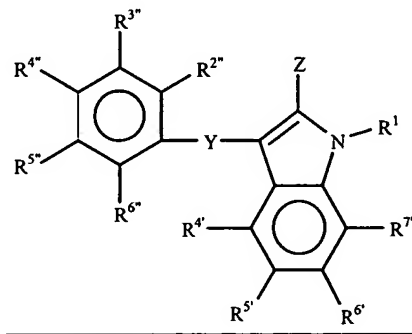
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 38(currently amended): The ~~A~~ method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H or -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

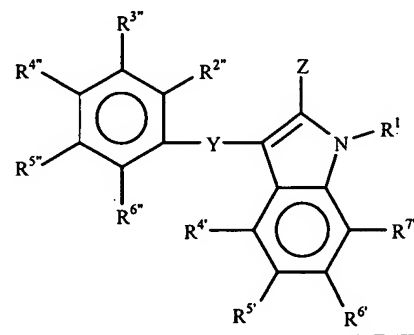
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 39(currently amended): ~~The A method of any one of claims 19 or 24 for the treatment of~~  
an HIV infection in a host comprising administering to said host an effective anti-HIV  
treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H or -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

Z is -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O; S; -N-CN or -N-OR<sup>2</sup>;

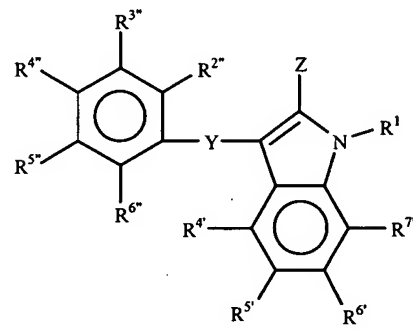
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 40(currently amended): The ~~A~~ method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H or -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

wherein if R<sup>5'</sup> is halo, then at least one of R<sup>4'</sup>, R<sup>6'</sup> and R<sup>7'</sup> is not hydrogen; or alternatively, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen;

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup> or -C(=O)R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O;

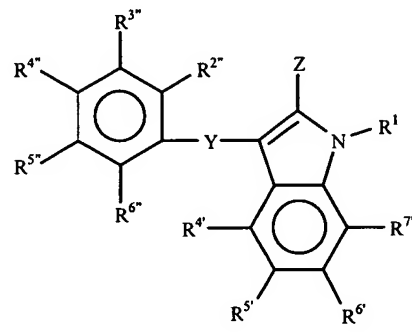
each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each ~~R<sup>3</sup>~~ R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 41 (currently amended): ~~The A method of any one of claims 19 or 24~~ for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>1</sup> is hydrogen;

R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are each independently H or halo, wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is not hydrogen;

R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently H or -C<sub>1-5</sub> alkyl or alkenyl optionally substituted with one or more of -OH, -SH, -C(O)H, -COOH, halogen, -NR<sup>2</sup>R<sup>2</sup>, -C<sub>1-5</sub> thioether or -C<sub>1-5</sub> alkoxy,

Z is -C(=W)NR<sup>2</sup>R<sup>3</sup>;

Y is O or S(O)<sub>n</sub>;

each W is independently O or S;

each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

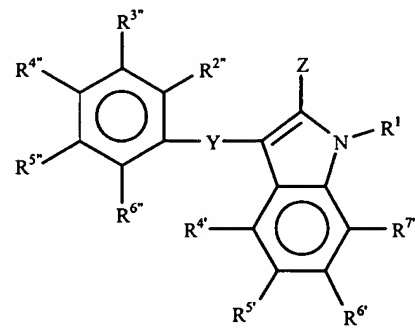


each  $R^3$  is independently  $C_{1-5}$  alkyl,  $C_{1-5}$  alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of  $C(O)NR^2R^2$ ,  $-NR^2R^2$ ,  $-(CH)_mC(O)NR^2R^2$ ,  $-(CH)_mC(=W)-NH(CH_2)_p-(\text{amino acid})$ .

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 42(currently amended): The ~~A~~ method of ~~any one of claims 19 or 24~~ for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H or halo;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H or  $-C_{1-5}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-5}$  thioether or  $-C_{1-5}$  alkoxy,

wherein if  $R^{5'}$  is halo, then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is  $-C(=W)NR^2R^3$ ;

Y is  $S(O)_n$ ;

each W is independently O;

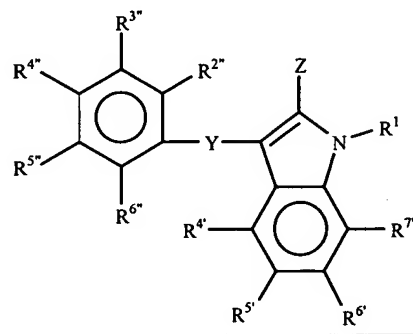
each  $R^2$  is independently hydrogen or  $C_{1-3}$  alkyl; and

each  $R^3$  is independently  $C_{1-5}$  alkyl,  $C_{1-5}$  alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of  $C(O)NR^2R^2$ ,  $-NR^2R^2$ ,  $-(CH)_mC(O)NR^2R^2$ ,  $-(CH)_mC(=W)-NH(CH_2)_p-(\text{amino acid})$ .

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 43(currently amended): The A method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H or halo;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OR^2$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ; oxime, hydrazine,  $-C_{1-5}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-5}$  thioether or  $-C_{1-5}$  alkoxy,

wherein if  $R^{5'}$  is halo, then at least one of  $R^{4'}$ ,  $R^{6'}$  and  $R^{7'}$  is not hydrogen; or alternatively, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are not hydrogen;

Z is  $-C(=O)R^3$ ;

Y is  $S(O)_n$ ;

each W is independently O;

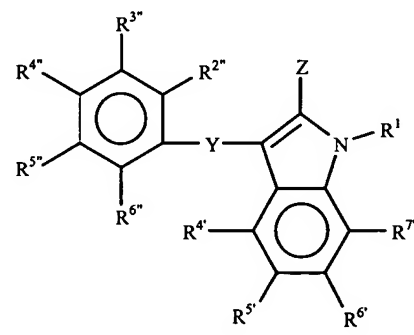
each  $R^2$  is independently hydrogen or  $C_{1-3}$  alkyl; and

each  $R^3$  is independently  $C_{1-5}$  alkyl,  $C_{1-5}$  alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of  $C(O)NR^2R^2$ ,  $-NR^2R^2$ ,  $-(CH)_mC(O)NR^2R^2$ ,  $-(CH)_mC(=W)-NH(CH_2)_p$ -(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 44(currently amended): The A method of any one of claims 19 or 24 for the treatment of an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H or halo, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$  or  $R^{7'}$  is not hydrogen;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H; halo;  $-NO_2$ ;  $-CN$ ;  $-OR^2$ ;  $-NHSO_2-C_{1-3}alkyl$ ;  $-NHCO-C_{1-3}alkyl$ ; oxime, hydrazine,  $-C_{1-5}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-5}$  thioether or  $-C_{1-5}$  alkoxy,

Z is  $-C(=O)R^3$ ;

Y is O or  $S(O)_n$ ;

each W is independently O;

each  $R^2$  is independently hydrogen or  $C_{1-3}$  alkyl; and

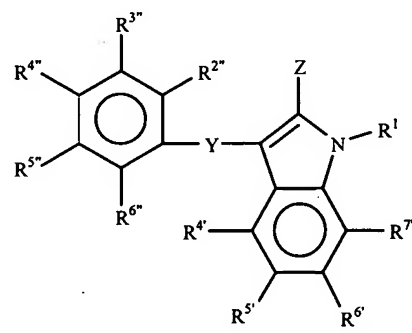
each  ~~$R^3$~~   $R^3$  is independently  $C_{1-5}$  alkyl,  $C_{1-5}$  alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of  $C(O)NR^2R^2$ ,  $-NR^2R^2$ ,  $-(CH)_mC(O)NR^2R^2$ ,  $-(CH)_mC(=W)-NH(CH_2)_p-(\text{amino acid})$ .

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 45(Previously presented) The method of any one of claims 19 or 24 wherein  $R^1$  is hydrogen.

Claim 46(currently amended): ~~The A method of any one of claims 19 or 24 for the treatment of~~ an HIV infection in a host comprising administering to said host an effective anti-HIV treatment amount of a compound of formula (I):



or a pharmaceutically acceptable salt thereof, wherein:

$R^1$  is hydrogen;

$R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$ ,  $R^{7'}$  are each independently H or halo, wherein at least two of  $R^{4'}$ ,  $R^{5'}$ ,  $R^{6'}$  or  $R^{7'}$  is not hydrogen;

$R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently H or  $-C_{1-5}$  alkyl or alkenyl optionally substituted with one or more of  $-OH$ ,  $-SH$ ,  $-C(O)H$ ,  $-COOH$ , halogen,  $-NR^2R^2$ ,  $-C_{1-5}$  thioether or  $-C_{1-5}$  alkoxy,

Z is  $-C(=W)NR^2R^3$ ;

Y is O or  $S(O)_n$ ;

each W is independently O;

each R<sup>2</sup> is independently hydrogen or C<sub>1-3</sub> alkyl; and

each R<sup>3</sup> is independently C<sub>1-5</sub> alkyl, C<sub>1-5</sub> alkenyl, aryl or heterocycle unsubstituted or substituted with one or more of C(O)NR<sup>2</sup>R<sup>2</sup>, -NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(O)NR<sup>2</sup>R<sup>2</sup>, -(CH)<sub>m</sub>C(=W)-NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid).

each n is independently 0, 1 or 2;

each p is independently 0, 1, 2, 3, 4 or 5

Claim 47(Cancelled)

Claim 48(Cancelled)

Claim 49(previously presented): The method of any one of claims 19 or 24 wherein Z is -C(=O)NH<sub>2</sub>; -C(=W)-NH<sub>2</sub>; -C(=O)NHR<sup>2</sup>; -C(=W)NHR<sup>2</sup>; -C(=O)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NR<sup>2</sup>R<sup>3</sup>; -C(=W)NH(CH<sub>2</sub>)<sub>p</sub>-(amino acid); -C(=O)R<sup>3</sup>; -C(=O)OR<sup>3</sup>; -C(=O)OH; -C(=W)OH; -C(=O)OR<sup>2</sup>; -C(=W)-OR<sup>2</sup>.

Claim 50(previously presented): The method of any one of claims 19 or 24 wherein Z is -C(=O)NH<sub>2</sub>; -C(=O)NHR<sup>2</sup> or -C(=O)NR<sup>2</sup>R<sup>3</sup>.

Claim 51 (currently amended): The method of any one of claims 19 or 24 wherein Y is ~~SO<sub>2</sub>~~ SO<sub>2</sub>.

Claim 52 (previously presented): The method of any one of claims 19 or 24 wherein R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup> and R<sup>7'</sup> are each independently H or halo.

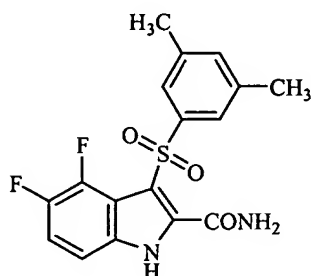
Claim 53(previously presented): The method of any one of claims 19 or 24 wherein at least two of R<sup>4'</sup>, R<sup>5'</sup>, R<sup>6'</sup>, R<sup>7'</sup> are not hydrogen.

Claim 54(previously presented): The method of any one of claims 19 or 24 wherein R<sup>2''</sup>, R<sup>3''</sup>, R<sup>4''</sup>, R<sup>5''</sup> and R<sup>6''</sup> are each independently optionally substituted or unsubstituted branched or unbranched alkyl, alkenyl or alkynyl.

Claim 55 (previously presented): The method of any one of claims 19 or 24 wherein  $R^{2''}$ ,  $R^{3''}$ ,  $R^{4''}$ ,  $R^{5''}$  and  $R^{6''}$  are each independently unsubstituted unbranched alkyl.

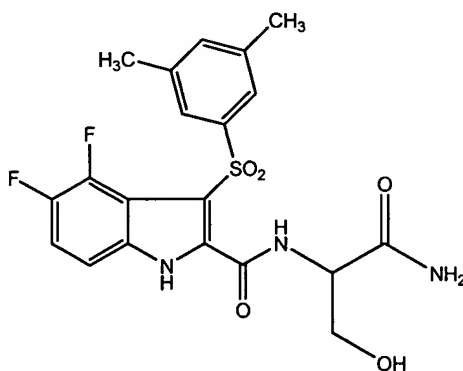
Claim 56 (currently amended): The method of any one of claims 19 or 24 wherein  ~~$R^1$~~   $R^1$  is hydrogen.

Claim 57 (previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



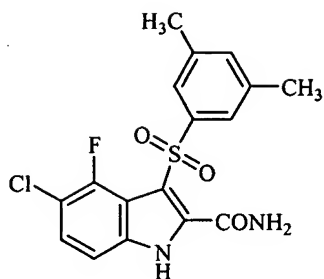
or a pharmaceutically acceptable salt thereof.

Claim 58 (previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



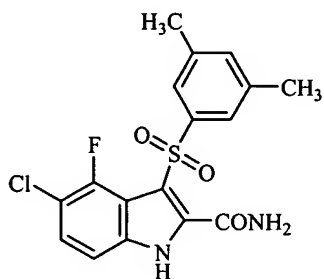
or a pharmaceutically acceptable salt thereof.

Claim 59 (previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



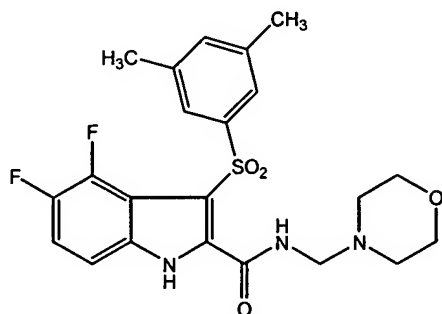
or a pharmaceutically acceptable salt thereof.

Claim 60(Previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



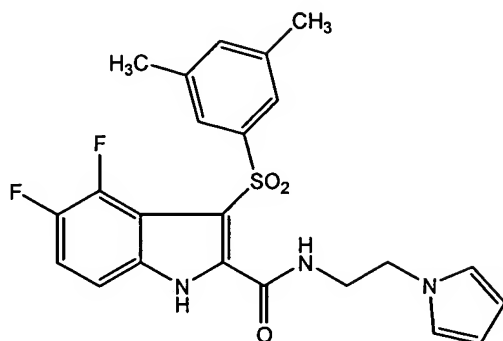
or a pharmaceutically acceptable salt thereof.

Claim 61 (Previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



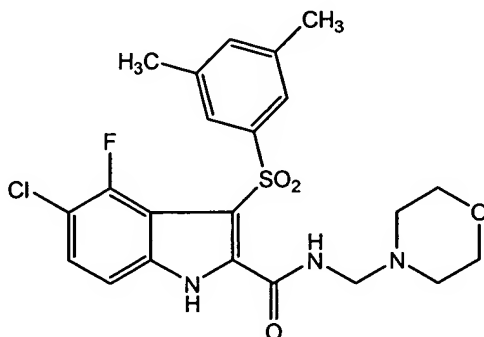
or a pharmaceutically acceptable salt thereof.

Claim 62(Previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



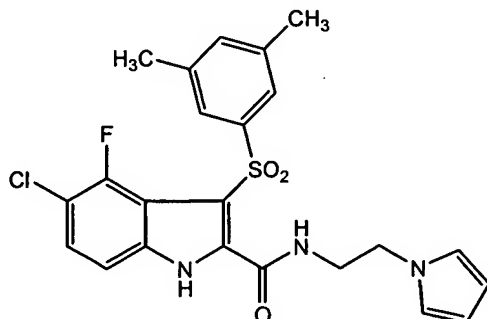
or a pharmaceutically acceptable salt thereof.

Claim 63 (Previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula



or a pharmaceutically acceptable salt thereof.

Claim 64(Previously presented): The method of any one of claims 19 or 24 wherein the compound is a compound of formula





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Amdt. dated February 3, 2006  
Reply to Office Action of November 3, 2005

or a pharmaceutically acceptable salt thereof.